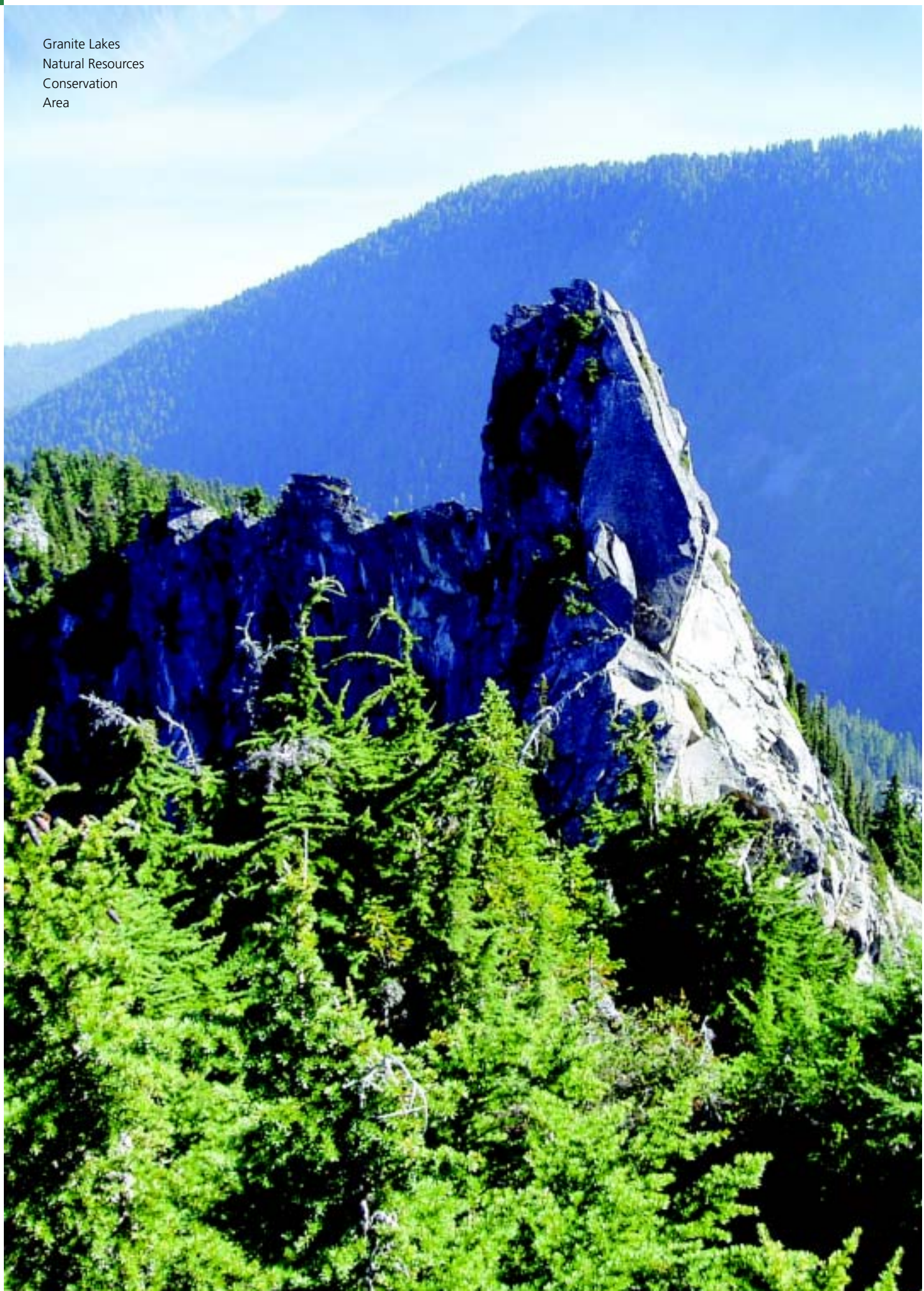


Granite Lakes
Natural Resources
Conservation
Area

Natural Heritage Plan Implementation

2003-2005

To successfully implement the *Natural Heritage Plan*, the Natural Heritage and Natural Areas programs and the Natural Heritage Advisory Council engage in a wide range of projects and activities. For the 2003-2005 Biennium, the work was divided into three general categories:

- Inventory, classification, research and monitoring,
- Information products and services, and
- Conservation planning and implementation.

These categories are based on the general framework of Natural Heritage methodology, which is to gather objective scientific data that can be synthesized into usable information to help inform the full array of conservation decisions and actions. The methodology used by the Washington Natural Heritage Program is shared by the network of natural heritage programs throughout the western hemisphere. The methodology is more fully described in the 2003 *State of Washington Natural Heritage Plan*, which can be viewed on-line at www.dnr.wa.gov/nhp/index.html.

The projects and activities reported on the following pages emphasize the relationship between the different categories. Inventory efforts identify the species and ecosystems in need of conservation work. Sharing information about priority species and ecosystems, and the places where they occur, with land managers, land-use planners, and others provides increased opportunities for conservation. And finally, as conservation actions are taken, priorities for future inventory work and conservation actions are refined.

Project Scale: Statewide vs. Ecoregion

The projects listed in the following pages are divided into those that have statewide significance, and those that are specific to an individual ecoregion. Accomplishments are reported by ecoregion in keeping with the framework for identifying priority species and ecosystems. While some accomplishments could be listed both as statewide and for individual ecoregions, dual reporting has been minimized.

The Natural Heritage Plan Implementation includes gathering information, developing information products, and using the information for conservation planning.

Statewide Projects and Activities: 2003-2005

The Natural Heritage and Natural Areas programs completed a number of important projects and activities during the 2003-2005 Biennium and initiated many others. Maintaining a high quality information system and achieving conservation for high priority species and ecosystems were emphasized. To that end, improvements were made to the programs' information management systems and the ability to deliver information to others. The Natural Heritage and Natural Areas programs also engaged in greater use of partnerships and volunteers. The staff of the Natural Heritage and Natural Areas programs also began to engage in a broader array of conservation-related activities.

Information Management and Delivery

During the 2003-2005 Biennium, the Natural Heritage Program continued to emphasize the importance of keeping an up-to-date and comprehensive database on the priority species and ecosystems of the state. The program installed a new software system (Biotics 4) to manage information on the state's species and ecosystems. Biotics 4 is widely used by the network of natural heritage programs throughout the western hemisphere.

The Natural Heritage Program has emphasized sharing the information and expertise housed in the program. The most visible products are on-line field guides for rare plants, amphibians and reptiles, and lowland Puget Trough plant associations. The program also provides information on a daily basis to county planning departments, consulting firms, government agencies, and conservation organizations, all in need of information to make sound land management decisions.

Partners and Volunteers

Many Natural Heritage and Natural Areas projects during the 2003-2005 Biennium have involved partnerships with other programs within DNR and with other state agencies, federal agencies, and private, mostly non-profit, organizations. Some of these partnerships involve cost share agreements, whereby the partners share the cost of funding the project. In the tables of projects and activities that follow, major partners and cooperators are identified.

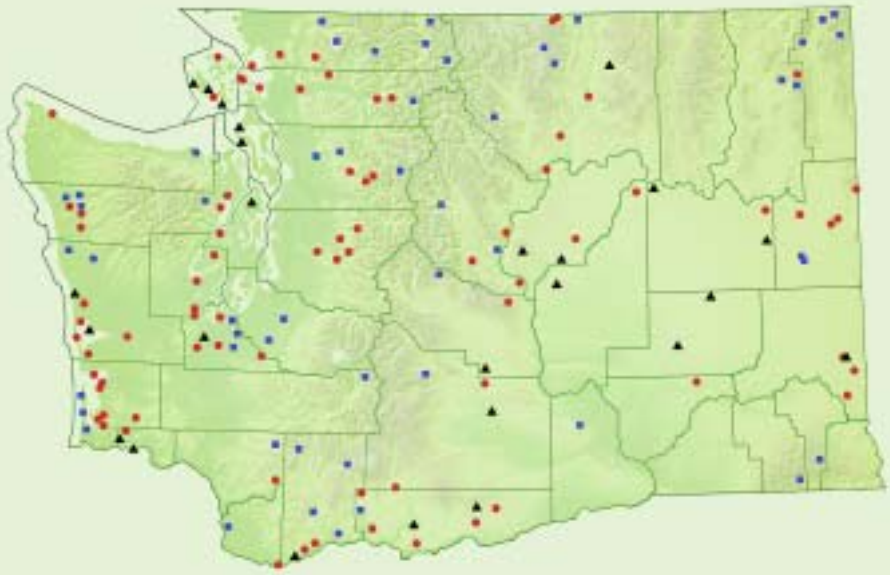
The Department of Natural Resources has also benefited greatly from individuals who have been willing to volunteer their time to help with a variety of projects on natural areas. Volunteer stewards have been assigned to many of the natural areas. There are also individuals who have volunteered for specific projects. Volunteers have helped with everything from gathering data to getting rid of noxious weeds. Their efforts greatly increase the effectiveness of the Natural Heritage and Natural Areas programs.

Broad Array of Conservation Related Projects and Activities

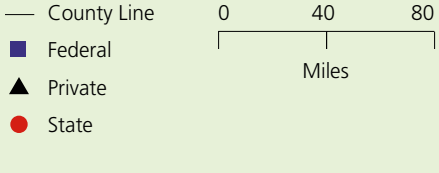
The Natural Heritage Program has continued to identify potential additions to the statewide system of natural areas. During the biennium, the Department of Natural Resources acquired more than 2,500 acres for such purposes. An updated map of the statewide system of natural areas is shown on next page.

The Natural Heritage Program has also been more involved in other Department of Natural Resources' projects, such as the development of the Policy for Sustainable Forests. The program also provided staff support for the Department of Natural Resources' involvement in the Washington Biodiversity Council.

The Natural Areas Program has volunteer stewards for many of its sites. The Department of Natural Resources and State Parks recently combined training programs for volunteer stewards.



Statewide System of Natural Areas



Statewide

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS
Biotics 4 installed—a new database and GIS software to manage data on the state's biodiversity (see www.natureserve.org for more information about Biotics 4)	Software developed by NatureServe and used by network of more than 70 NHPs
Entered more than 700 new records into the Natural Heritage Information System, including: ◗ 263 rare plant occurrences ◗ 490 rare animal occurrences (primarily amphibians) ◗ 10 terrestrial ecosystem occurrences	Core NHP function; data provided by USFS, BLM, WDFW and others
Coordinated with Rare Care revisits to, and monitoring of, more than 180 occurrences of rare plants statewide. Rare Care is a rare plant conservation program at the Center for Urban Horticulture, University of Washington	Collaborative effort between NHP, UW and others
Reviewed state ranking of species associated with late seral forest conditions within the range of the Northern Spotted Owl ("Survey and Manage" species)	BLM, USFS, Oregon Natural Heritage Program
Completed review of global and state status for rare amphibians, reptiles, mammals and a select group of invertebrates	Funded by U.S. Forest Service
Helped develop international data standards for managing rare plant occurrence information	Joint effort of NatureServe and other NHPs

INFORMATION PRODUCTS AND SERVICES	COMMENTS
Responded to more than 1,000 requests for information from the Natural Heritage Program's information system: ◗ Private companies—560 ◗ Local governments (primarily counties)—311 ◗ State agencies—134 ◗ Federal agencies—33 ◗ Conservation organizations—16 ◗ Educational institutions—15	These numbers do not include the requests made of the NHP's ecologists, botanists and zoologists for their expertise.

SCOTT SAGOR

Partnerships and volunteers increase the effectiveness of the Natural Heritage and Natural Areas programs. A partnership with Rare Care at the Center for Urban Horticulture (University of Washington) ensures that the Natural Heritage Program receives updated information on high priority rare plant occurrences each year.

Monitoring the condition of existing natural areas provides information that helps guide decisions regarding land management activities. Natural areas staff and volunteers receive classroom and field training in monitoring techniques.

INFORMATION PRODUCTS AND SERVICES (CONTINUED)	**COMMENTS**
Completed on-line field guides for animal and plant species: ◗ 28 amphibian and reptile species completed ◗ More than 200 rare plant species' fact sheets completed	Cost share projects with USFS and BLM; assistance from WDFW for the animal species
Posted list of locations (by Township, Range, Section) known to have high quality wetlands and/or rare plants associated with wetlands on-line	Used to aid in determination of DOE's wetland categories
Established a list serve for professional botanists working on rare plant conservation issues in Washington	Currently subscribed to by more than 100 participants
Established a list serve for professional biologists and ecologists working on shrub-steppe conservation issues in Washington	Currently subscribed to by more than 50 participants
Provided training and information to timber industry regarding G1 (critically imperiled) and G2 (imperiled) species and ecosystems to assist them in meeting Sustainable Forestry Initiative criteria	Sustainable Forestry Initiative workshops sponsored by industry.

CONSERVATION PLANNING AND IMPLEMENTATION	**COMMENTS**
Three new natural areas recommended to and approved by the Natural Heritage Advisory Council	See Puget Trough and NW Coast Ecoregions
Acquired approximately 2,550 acres to add to the natural areas system ◗ Acquired properties at 16 sites (including both NAPs and NRCAs) ◗ Acquired properties within 6 of the state's 9 ecoregions	Funding sources include WWRP, TLT, USFWS
Participated in assessments to identify priority places for conservation	Partners include TNC, WDFW and counterparts in Oregon and British Columbia
Assisted with development of the DNR Policy for Sustainable Forests, specifically with regard to special ecological features, old-growth, and riparian features	DNR project
Assisted State Parks in assessing statewide significance of natural resources on both developed and undeveloped park parcels	Cooperative effort with State Parks
Provided consultation and assistance to WDFW regarding development of the Comprehensive Wildlife Conservation Strategy for Washington	WDFW project

Natural areas provide opportunities for research on ecosystems and species, such as the monitoring of the hydrology of Kings Lake Bog Natural Area Preserve shown here.

Ecoregion Implementation Activities

2003-2005

Activities are reported by ecoregion in keeping with the framework for identifying priority species and ecosystems. Portions of nine ecoregions occur within Washington's borders. Ecoregion boundaries have been drawn to reflect broad ecological patterns occurring on the landscape; they provide an ecological basis for partitioning the state for conservation assessment and planning purposes. Each of the nine ecoregions occurring within Washington is described in the 2003 State of Washington Natural Heritage Plan (see www.dnr.wa.gov/nhp/index.html).

The Natural Heritage Program participated in several projects during the 2003-2005 biennium that resulted from a partnership with The Nature Conservancy and the Washington Department of Fish and Wildlife. The projects entailed developing ecoregional assessments that identify priority places for conservation within each ecoregion. Because ecoregions extend beyond our state's borders, these projects also involved partnerships with agencies and organizations in Oregon and British Columbia.

One of the primary purposes of Washington's statewide system of natural areas is to provide opportunities for research on species and ecosystems in a natural environment. The inclusion of the many research projects that are making use of the state's system of natural areas provides a measure of the research value and potential of this system. Research projects that have been conducted on Natural Area Preserves and Natural Resources Conservation Areas, even if the research was entirely undertaken by others have been included. They are listed in the ecoregion tables since the individual research projects generally are limited to a single natural area or a suite of natural areas within the same ecoregion.

Pacific Northwest Coast Ecoregion | 2003-2005 Implementation Activities

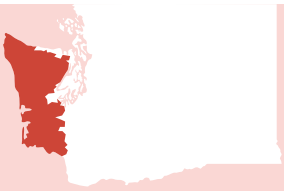
Work by the Natural Heritage and Natural Areas Programs within this ecoregion during the 2003-2005 biennium focused on inventory,vegetation classification, conservation planning, management activities at individual natural areas, and land acquisitions. For a description of this ecoregion, see the 2003 *State of Washington Natural Heritage Plan*.

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS
Completed vegetation classification for the ecoregion that is consistent across boundaries with British Columbia and Oregon	Partners: Oregon NHP and B.C. Conservation Data Centre
Conducted water chemistry and water quality monitoring and research at Carlisle Bog and North Bay NAPs	Cooperative project involving DNR and TESC
Monitored spartina at Bone River and Niawiakum River NAPs and Elk River NRCA	DNR Aquatics and Natural Areas project
Inventoried non-native species at Sand, Goose, Whitcom Flats and Gunpowder Islands NAPs	Natural Areas project
Conducted Marbled Murrelet census training at South Nemah NRCA	Partnership with WDFW
Continued inventory of herbaceous balds	NHP project
Conducted road inventory in Elk River NRCA	Natural Areas project

Research provides the Natural Areas Program with information that helps guide management.

Potential new natural areas, such as Hamma Hamma Balds, are identified as a result of intensive inventory effort and analysis of existing information. The Natural Heritage Advisory Council plays a key role in the approval process for new natural areas.

Bone River Natural Area Preserve



CONSERVATION, PLANNING AND IMPLEMENTATION	COMMENTS
New natural area preserve approved by the Natural Heritage Advisory Council at Hamma Hamma balds	Public review and approval by Commissioner of Public Lands is in process
Acquired 250 acres for added protection at existing natural areas. Features protected include high-quality freshwater wetlands and bogs, estuarine marshes and tidal flats, and low elevation conifer forest habitats	Funded through:
◗ Bone River NRCA	◗ TLT
◗ Elk River NRCA	◗ WWRP
◗ North Bay NAP	◗ WWRP
◗ Chehalis River Surge Plain NAP	◗ WWRP
Participated in identification of priority places for conservation within the ecoregion	Partners: TNC, WDFW, DNR and counterparts in B.C. and Oregon
Conducted weed control and wetland revegetation in Chehalis River Surge Plain NAP	Multi-agency / volunteer effort
Treated *Spartina alterniflora* (smooth cordgrass) with herbicides within the main rivers and tributaries at Bone River and Niawiakum River NAPs	DNR Aquatics and Natural Areas project

Natural Heritage Program scientists conduct extensive inventories for high priority ecosystems and species, such as the herbaceous balds pictured here.

Puget Trough Ecoregion | 2003-2005 Implementation Activities

The Natural Heritage and Natural Areas programs had several priority projects within the Puget Trough Ecoregion during the 2003-2005 biennium. The programs have focused on this ecoregion due to the combination of a high number of priority species and ecosystems, and continued growth and development. The high number of natural areas within the ecoregion has also meant that there is a significant need for ongoing management activities. For a description of this ecoregion, see the 2003 *State of Washington Natural Heritage Plan.*

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS
GIS technology used to predict presence and guide inventory efforts for several high priority rare plant species occurring in southwest Washington prairie remnants.	Cost share with USFWS
Continued inventory of herbaceous balds throughout western Washington NHP project	NHP project
Conducted and/or supported *Castilleja levisecta* (golden paintbrush) research and monitoring: ◗ Population monitoring ◗ Examining impacts of fire ◗ Experimental seeding and out-planting ◗ Common garden studies to support establishment of new populations	Partners: USFWS, Oregon State University, Institute for Applied Ecology, TNC, State Parks, DNR
Conducted streaked horned lark research: habitat selection, reproductive success, and restoration needs	Partners: DNR, TNC, Ft. Lewis, USFWS and McChord AFB
Supported research projects on NAPs and NRCAs led by others: ◗ Taylor's checkerspot research: life history, habitat selection and population monitoring ◗ Research regarding changes to endangered butterflies' habitats within Garry oak ecosystems (Bald Hill NAP) ◗ Bat census and habitat use study (Woodard Bay NRCA) ◗ Study of Oregon white oak acorn production (Bald Hill and Oak Patch NAPs) ◗ Historical ecology and ethnoecology of Upper Chehalis Mima Mound prairies ◗ Assessing mowing and herbicide techniques for controlling tall oatgrass ◗ Effects of fire on Puget Trough prairie seed bank dynamics	Research led by: ◗ WDFW, TNC ◗ University of Victoria ◗ Cascadia Research Cooperative ◗ USFS (PNW lab) ◗ UW ◗ WDFW ◗ UW

INFORMATION PRODUCTS AND SERVICES	COMMENTS
Published on-line field guide to 29 plant associations occurring in the Puget lowlands	Funded by SWIMTAC

CONSERVATION, PLANNING AND IMPLEMENTATION		COMMENTS
Three new natural areas identified and approved:	◗ Washougal Oaks NAP/NRCA ◗ Stavis NRCA ◗ Whidbey Island Golden Paintbrush NAP	Acquisitions pending; multiple partners and funding sources

Cooperative research, involving state and federal agencies and private conservation organizations, has provided critical information for management of natural areas for the rare Streaked Horned Lark.

A new natural area — Washougal Oaks NAP/NRCA in Clark County — helps protect both rare ecosystems and rare species. The ecological significance of such sites comes to light as a result of intensive inventory efforts and analysis of existing information.

CONSERVATION, PLANNING AND IMPLEMENTATION (CONTINUED)	COMMENTS
380 acres added to existing natural areas: ◗ Shumocher Creek NAP ◗ Woodard Bay NRCA ◗ Mima Mounds NAP ◗ Cypress Island NRCA ◗ Kennedy Creek NAP ◗ Skookum Inlet NAP	Funding sources: ◗ WWRP ◗ WWRP ◗ TLT ◗ WWRP ◗ WWRP ◗ WWRP
Expanded boundaries approved for two existing natural areas: Mima Mounds and Kennedy Creek NAPs	DNR staff with assistance and review of others
Completed ecoregional assessment for Willamette Valley - Puget Trough - Georgia Basin Ecoregion, identifying priority places for conservation	Partners: TNC, WDFW, DNR and counterparts in Oregon and B.C.
Installed bat colony houses at Woodard Bay NRCA	Cooperative DNR and TNC project
Conducted restoration of prairie habitat after Douglas-fir removal within Rocky Prairie NAP	Cooperative project: USFWS, DNR, volunteers
Supported restoration of oak woodland habitat at Mima Mounds NAP	Partners: American Bird Conservancy; volunteers
Conducted weed control planning and implementation ◗ Rocky Prairie NAP ◗ Mima Mounda NAP ◗ Kennedy Creek NAP ◗ Cypress Island NRCA ◗ Woodard Bay NRCA -followed by native planting	Various cooperative projects involving NRCS, TNC, WCC and volunteers
Restored stream channel of Elson Creek in Skookum Inlet Natural Area Preserve, including removal of abandoned fish hatchery and revegetation with native plant species	Partners: Squaxin Island Tribe, South Puget Sound Salmon Enhancement Group, Earthcorps, NOAA, TNC volunteers
Completed Kitsap Forest NAP Management Plan and approved by Natural Heritage Advisory Council	DNR project
Completed seal habitat maintenance at Woodard Bay NRCA	DNR project
Participated on the Willamette Valley/SW Washington Recovery Team for a suite of federally listed species	Cooperative project: USFWS and agency biologists from Oregon and Washington

North Cascades Ecoregion | 2003-2005 Implementation Activities

The North Cascades Ecoregion was not a priority ecoregion for work by the Natural Heritage and Natural Areas Programs during the 2003-2005 biennium. Relatively few priority species or ecosystems occur in this ecoregion. Also, it is relatively intact and largely in public ownership. The Department of Natural Resources did, however, add to one of the natural areas in the ecoregion and continues to conduct appropriate management of the existing natural areas. For a description of this ecoregion, see the 2003 *State of Washington Natural Heritage Plan*.

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS
Supported research on NAP led by others: study of the ecology of black lily (*Fritillaria camschatcensis*) (Mt. Pilchuck NRCA)	UW research project
Continued inventory of herbaceous balds	NHP project

CONSERVATION PLANNING AND IMPLEMENTATION	COMMENTS
Added 604 acres, including three alpine lakes in Mt. Si NRCA	Funded through WWRP
Controlled of *Buddleja davidii* (butterfly bush), a non-native plant species in Mt. Si NRCA	DNR project; volunteers
Participated in identification of priority places for conservation within the ecoregion	Partners: WDFW, TNC, DNR and counterparts in B.C.

Recent additions to Mt. Si Natural Resources Conservation Area include three subalpine lakes.

Efforts are underway to identify the priority places for conservation within the ecoregion.

West Cascades Ecoregion | 2003-2005 Implementation Activities

Work by the Natural Heritage and Natural Areas Programs in this ecoregion during the 2003-2005 biennium included inventory of herbaceous balds, management activities in existing natural areas, and conservation planning work with major partners. For a description of this ecoregion, see the 2003 *State of Washington Natural Heritage Plan*.

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS
Conducted inventory of herbaceous balds	NHP project
Supported research on natural areas: use of dendrochronology to establish the date of the Bonneville landslide (Table Mountain NRCA)	DNR Geology, Heritage High School research project

CONSERVATION PLANNING AND IMPLEMENTATION	COMMENTS
Acquired 14 acres for added protection at West Tiger Mountain NRCA	Funded through WWRP
Completed environmental clean-up at West Tiger Mountain NRCA, followed by stream restoration work	Conducted with volunteers, donated materials
Participated in identification of priority place for conservation within the combined East Cascades and West Cascades ecoregions	Partners: TNC, WDFW, DNR and counterparts in Oregon and B.C.
Conducted weed control in Table Mountain and West Tiger Mountain NRCAs	DNR project; volunteers
Implemented closure and initial restoration of user-built trail within Table Mountain NRCA	DNR project; volunteers
Completed restoration of former home site with native species within West Tiger Mountain NRCA	Partnership: Mountains to Sound Greenway Trust and DNR

The process of identifying and designating a new natural area involves careful evaluation of available information. The Natural Heritage Advisory Council plays a key role in the approval process. Here Council members and Department of Natural Resources staff visit Charley Creek, a potential new natural area.

East Cascades Ecoregion | 2003-2005 Implementation Activities

KRISTINA PROSZEK

The efforts of the Natural Heritage and Natural Areas Programs within this ecoregion during the 2003-2005 biennium focused primarily on rare plant and animal species, including inventory, monitoring, research and conservation planning activities. Natural Heritage Program staff also participated with The Nature Conservancy and the Washington Department of Fish and Wildlife in a conservation assessment for the ecoregion. For a description of this ecoregion, see the 2003 *State of Washington Natural Heritage Plan.*

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS
Led annual *Rana pretiosa* (Oregon Spotted Frog) egg mass counts at Trout Lake NAP	Cooperative project: DNR and WDFW
Conducted population monitoring for *Trifolium thompsonii* (Thompson's clover) at Entiat Slopes NAP	Cooperative project: DNR and USDA Agricultural Research Service
Monitored success of habitat enhancement projects for *Sidalcea oregana* var. *calva* (Wenatchee Mtns. checkermallow) at Camas Meadows NAP	Cooperative project: USFS, USFWS, DNR
Conducted intensive inventory for *Hackelia venusta* (showy stickseed) in Tumwater Canyon	Cooperative project: USFWS, USFS, DNR
Conducted botanical inventory within Monte Cristo NAP	Natural Areas project

INFORMATION PRODUCTS AND SERVICES	COMMENTS
Presented paper on Oregon Spotted Frog fall and winter habitat use and oviposition ecology to 2004 meeting of the Society for the Study of Northwestern Vertebrate Biology	Co-authored with WDFW scientists

TOM DARK

Many natural areas require some degree of active management. Habitat enhancement for rare species and weed control have occurred at Camas Meadows Natural Area Preserve.

Partnerships and volunteers enhance DNR's ability to manage natural areas.

CONSERVATION PLANNING AND IMPLEMENTATION	COMMENTS
Added 1,787 acres to existing natural areas ◗ Trout Lake NAP (Klickitat County)—high-quality freshwater wetlands, including habitat for a rare amphibian ◗ Monte Cristo NAP (Klickitat County)—mid-elevation conifer forest	Funded through WRP and TLT
Participated in identifying priority places for conservation within the combined East Cascades and West Cascades ecoregions	Partners: TNC, WDFW, DNR and counterparts in Oregon and B.C.
Coordinated the development of a recovery plan for the federally threatened *Hackelia venusta* (showy stickseed)	Cost share project with USFWS, USFS, DNR
Participated in the completion of a recovery plan for the federally threatened *Sidalcea oregana* var. *calva* (Wenatchee Mountains checkermallow)	Cost share project with USFWS, USFS, DNR
Conducted weed control at Camas Meadows NAP, Trout Lake NAP, White Salmon Oaks NRCA and Entiat Slopes NAP	Natural Areas project
Enhanced wetlands for *Grus canadensis* (Sandhill Cranes) within Klickitat Canyon NRCA	Cooperative project: WDFW, DNR and private landowner

RARE CARE

The Natural Heritage Program is partnering with the U.S. Forest Service and the U.S. Fish and Wildlife Service in the development of a recovery plan for the showy stickseed (*Hackelia venusta*), a federally endangered species.

Okanogan Ecoregion | 2003-2005 Implementation Activities

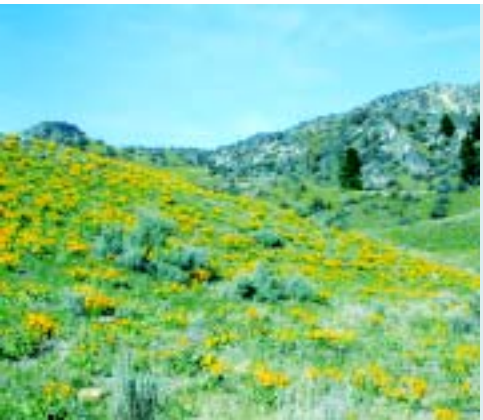
Work by the Natural Heritage and Natural Areas programs within this ecoregion during the 2003-2005 biennium focused on management issues within individual existing natural areas. Inventory work and conservation planning was also conducted. For a description of this ecoregion, see the 2003 *State of Washington Natural Heritage Plan.*

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS
Inventoried for rare amphibians and reptiles	Cost share with BLM
Monitored rare plant populations in Chopaka NAP and Dishman Hills NRCA	Natural Areas project; volunteers
Supported projects on NAPs and NRCAs led by others: ◗ Botanical inventory in Chopaka NAP ◗ Bird point counts at Chopaka Mountain, including the NAP ◗ Analysis of genetic variation (using DNA) in ponderosa pine needles from Pinecroft NAP ◗ Research into relationships between soil borne pathogen and cheatgrass in Pinecroft NAP	Project conducted by: ◗ Volunteers ◗ USFS ◗ North Central High School (Spokane) ◗ Gonzaga University
Conducted research examining effects of prescribed fire on bitterbrush/Idaho fescue vegetation within Davis Canyon NAP	Cooperative project involving NPS, TNC, DNR
Conducted *Lynx canadensis* (Lynx) tracking within Loomis NRCA	Natural Areas project; volunteers
Monitored understory vegetation following restoration thinning within Pinecroft NAP	Natural Areas project

Natural areas provide an array of educational and research opportunities. High school students are studying genetic variation in pine trees while university students are examining soil and plant relationships at Pinecroft Natural Area Preserve in Spokane County.

Natural Areas provide habitat for a variety of species, including the Lynx, whose tracks are shown here in the snow within the Loomis Natural Resources Conservation Area. Volunteers assisted Natural Areas Program staff with monitoring Lynx use within the area.

CONSERVATION PLANNING AND IMPLEMENTATION	COMMENTS
Participated in identification of priority places for conservation within the ecoregion	Partners: TNC, WDFW, DNR and counterparts in B.C.
New conservation design for Methow Rapids NAP approved by the Natural Heritage Advisory Council	Public review and approval by Commissioner of Public Lands is in process
Conducted weed control within several natural areas: ◗ Davis Canyon NAP ◗ Dishman Hills NRCA and Pinecroft NAP ◗ Methow Rapids NAP ◗ Riverside Breaks NAP	Natural Areas project; used volunteers
Used prescribed fire to help restore bitterbrush / Idaho fescue vegetation at Davis Canyon NAP	Partnership involving NPS, TNC, DNR
Provided technical consultation to Chelan PUD on the management of populations of the federally threatened *Spiranthes porrifolia* (Ute lady's-tresses)	Project involving Chelan PUD, USFWS and others
Completed fireline restoration, including soil stabilization and revegetation using native grasses and shrubs within Loomis NRCA	Natural Areas project



Although natural areas are in good ecological condition, many require active management. Davis Canyon Natural Area Preserve was one of the many natural areas where volunteers assisted Natural Areas staff with weed control efforts.

Canadian Rockies Ecoregion | 2003-2005 Implementation Activities

The work of theNatural Heritage and Natural Areas Programs was limited within this ecoregion during the 2003-2005 biennium. The Department of Natural Resources transferred 37 acres that was formerly trust land to the LIttle Pend Oreille River Natural Area Presenve and continued a partnership with the Colville National Forest to conduct amphibian inventories. The ecoregion is small, relatively intact ecologically, and geographically isolated from other priority work areas. For a more detailed description of this ecoregion, see the 2003 *State of Washington Natural Heritage Plan*.

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS
Conducted amphibian inventory of lentic habitats on the Colville National Forest	Cost share project with Colville National Forest

CONSERVATION PLANNING AND IMPLEMENTATION	COMMENTS
Added 37 acres to Little Pend Oreille River Natural Area Preserve	Funded through TLT

Partnerships provide opportunities to share information and expertise, leading to more efficient and effective conservation decisions. A cost share agreement between the Natural Heritage Program and the Colville National Forest provided both parties with more complete information about the distribution and conservation needs of amphibians in northeastern Washington.

Blue Mountains Ecoregion | 2003-2005 Implementation Activities

The Blue Mountains ecoregion received little attention from the Natural Heritage and Natural Areas Programs during the 2003-2005 biennium. This is due in large part to the limited number of priority elements known to occur in the ecoregion, the limited size of the ecoregion, the ecoregion is relatively intact ecologically, and there are no natural areas within the ecoregion that are managed by the Department of Natural Resources. There is a need for additional inventory in the ecoregion, particularly within the canyon grasslands, for rare plant species. For a description of this ecoregion, see the 2003 *State of Washington Natural Heritage Plan.*

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS
Conducted reconnaissance of the Lime Hill area for possible conservation actions	Joint effort by BLM, DNR

Cooperative inventory efforts by BLM and DNR have initiated an assessment of the conservation needs in the canyon grasslands of the southeastern corner of the state.

ED ALVERSON

Columbia Plateau Ecoregion | 2003-2005 Implementation Activities

The Natural Heritage Program focused attention on this ecoregion during the 2003-2005 biennium. The Columbia Plateau is one of the top three ecoregions for numbers of priority elements and it is rich in endemic species and ecosystem types. Future conservation opportunities may be impacted by changes in land ownership and land use. For these reasons, the Natural Heritage Program has emphasized inventories for priority species and ecosystems and continued its efforts, in partnership with others, to better classify and describe the variety of ecosystems that occur within the Columbia Plateau.

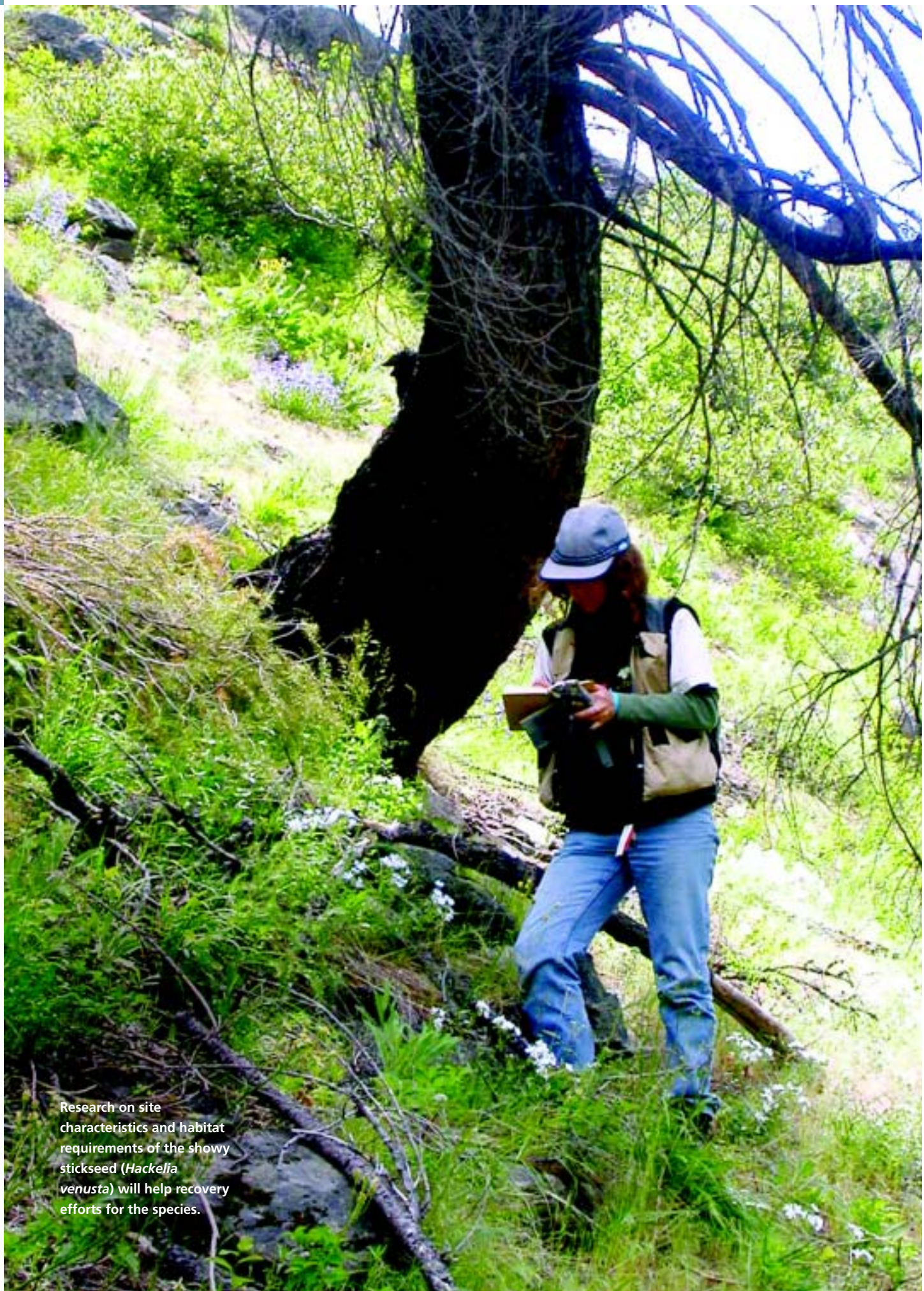
INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING	COMMENTS / PARTNERS
Tested new method of externally attaching transmitters to snakes to learn locations of snake denning sites and patterns of snake movement prior to the snakes entering their dens	Cost share with BLM
Completed surveys for rare and declining amphibians and reptiles	Cost share with BLM
Initiated assessment of conservation needs of sand dunes and associated species	NHP scientists
Continued inventory of state trust lands for *Brachylagus idahoensis* (Pygmy Rabbit) habitat suitability and species' presence	WDFW, BLM, USFWS, Foster Creek Conservation District
Continued inventory of state trust lands for rare plant species	NHP scientists
Conducted inventory and monitoring at Fairchild Air Force Base for the federally listed *Silene spaldingii* (Spalding's catchfly)	Funded by Fairchild AFB, US Army
Conducted inventory at Fairchild Air Force Base for vernal pools and the presence of rare plant species	Funded by Fairchild AFB, US Army
Supported research projects on NAPs that were led by others: ◗ Study of relationships between soil silica phytoliths and existing vegetation (Marcellus Shrub-Steppe and Kahlotus Ridgetop NAPs) ◗ Study of pollination ecology of *Erigeron basalticus* (basalt daisy) (Selah Cliffs NAP) ◗ Study of seed predation and cheatgrass competition effects on *Astragalus sinuatus* (Whited's milkvetch) (Upper Dry Gulch NAP) ◗ Study comparing wildlife communities in shrub-steppe and CRP lands (Marcellus Shrub-Steppe NAP)	Research led by: ◗ St. Cloud University ◗ CWU ◗ UW ◗ WDFW

A partnership with the Bureau of Land Management and a new methodology for attaching radio transmitters to snakes has provided critical information about habitat requirements and conservation needs.

The Department of Natural Resources made modest additions to natural areas in the ecoregion. With nearly thirty natural areas, the Natural Areas Program dedicated significant resources to management issues, particularly weed control. Weed species targeted included knapweed, rush skeletonweed, Canada thistle, Russian thistle, Himalayan blackberry, Dalmatian toadflax, leafy spurge, kochia, and perennial pepperweed. For a description of this ecoregion, see the 2003 *State of Washington Natural Heritage Plan*.

INVENTORY, CLASSIFICATION, RESEARCH AND MONITORING (CONTINUED)	**COMMENTS / PARTNERS**
Monitored native grassland and invasive species (Columbia Hills and Kahlotus Ridgetop NAPs)	DNR staff and volunteer stewards
Monitored vegetation response after 1998 wild fire within Cleveland Shrub-Steppe NAP	Natural Areas scientist
Monitored rare plant species populations (Columbia Hills and Upper Dry Gulch NAPs)	Volunteers, DNR staff
Monitored bird community using point counts (Kahlotus Ridgetop NAP)	Volunteer stewards
INFORMATION PRODUCTS AND SERVICES	**COMMENTS / PARTNERS**
Completed riparian vegetation classification for the Columbia Basin	Cooperative project with EPA, Adams and Lincoln counties, BLM and TNC
Participated in vegetation classification and mapping of sagebrush steppe in eastern WA as part of project to assess conservation status of Sage-Grouse	Partnership with USGS and NatureServe
CONSERVATION PLANNING AND IMPLEMENTATION	**COMMENTS / PARTNERS**
Added approximately 80 acres to existing natural areas ◗ Two Steppe NAP (Douglas County)—high quality shrub-steppe ◗ Selah Cliffs NAP (Yakima County)—habitat for a globally imperiled plant species	Funded through WWRP
Completed Columbia Hills NAP Management Plan	Joint planning effort with State Parks
Conducted weed control within several NAPs: Columbia Hills, Cleveland Shrub-Steppe, Kahlotus Ridgetop, Selah Cliffs, Spring Creek Canyon, Two-Steppe, and Upper Dry Gulch	DNR staff, volunteer stewards and other volunteers
Submitted recommendation to the Department of Fish and Wildlife to list the sagebrush lizard as a candidate species	Prepared by NHP herpetologist

Plant community and rare plant species monitoring data provide the basis for determining conservation status and for making management decisions.



Research on site characteristics and habitat requirements of the showy stickseed (*Hackelia venusta*) will help recovery efforts for the species.

Natural Heritage Priority Changes

2005-2007

New information gained through inventory, research and monitoring during the 2003-2005 biennium, combined with conservation actions taken during that time, result in the need to revise priorities for the 2005-2007 biennium. This section includes both changes to the lists of priority species and ecosystems and identification of priority projects and activities.

2005-2007 | Changes to the List of Element Priorities

A number of changes to the lists of priority species and ecosystems have been identified for the 2005-2007 biennium. The changes include addition of new elements (both species and ecosystems), changes to the priority of individual elements (either being elevated or downgraded), and the removal of elements from the list of priorities. Most of the changes are the result of increased inventory efforts and other additional information becoming available. The table below includes a brief description of the reason for the change.

ECOSYSTEMS	2003 NH PLAN PRIORITY	2005 NH PLAN PRIORITY	REASON FOR CHANGE
Grand fir / elk sedge woodland	+ Adequately represented if proposed natural area is finalized	* Adequately represented in East Cascades Ecoregion	Proposed Monte Cristo (Dry Creek) NAP designated and transferred to NAP status.
Willamette Valley wet prairie	No Priority	Priority 1 (Puget Trough)	Thought to be extirpated. Change determined by inventory effort.
ANIMAL SPECIES	**2003 NH PLAN PRIORITY**	**2005 NH PLAN PRIORITY**	**REASON FOR CHANGE**
Sharptail snake (*Contia tenuis*)	Priority 2	Priority 3	More common and/or less threatened than previously thought. Change determined through increased inventory effort.
Night snake (*Hypsiglena torquata*)	Priority 2	Priority 3	
Sagebrush lizard (*Sceloporus graciosus*)	Priority 2	Priority 3	
Side-blotched lizard (*Uta stansburiana*)	Priority 2	Priority 3	
Black-throated sparrow (*Amphispiza bilineata*)	Priority 2	Priority 3	Occurs peripherally in WA; most conservation measures for this species must occur outside of the state.
River lamprey (Lampetra ayresi)	No Priority	Priority 3	Less common than previously thought.
Preble's Shrew (Sorex preblei)	No Priority	Priority 3	Occurs pripherally in WA; most conservation measures will occur outside of WA.
White Salmon Pocket Gopher (*Thomomys talpoides limoses*)	No Priority	Priority 3	Less common than previously thought.
Dog Star Skipper (*Polites sonora siris*)	No Priority	Priority 3	

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The priority assigned to each species and ecosystem is reviewed as new information is gathered. Additional inventory effort resulted in moving the Night Snake from Priority 2 to Priority 3.

For a complete list of the priority species and ecosystems for the 2005-2007 biennium, visit the Natural Heritage Program's website at www.dnr.wa.gov/nhp/index.html.

For a description of the system of assigning priorities to species and ecosystems see the 2003 *Natural Heritage Plan.*

PLANT SPECIES	2003 NH PLAN PRIORITY	2005 NH PLAN PRIORITY	REASON FOR CHANGE
Davis's milkweed (*Asclepias cryptoceras ssp. davisii*)	Possibly Extirpated	Priority 2	Rediscovered in Washington.
Fee's lip-fern (*Cheilanthes feei*)	Possibly Extirpated	Priority 2	
Narrow-stem cryptantha (*Cryptantha gracilis*)	No Priority	Priority 3	Appears restricted to limited number of sites in Grant and Douglas cos.
Puzzling rockcress (*Halimolobos perplexa var. perplexa*)	No Priority	Priority 2	Recently discovered in Douglas County, disjunct from previously know range in central Idaho.
Mimulus patulus	No Priority	Priority 2	Known from only 2 recent populations.
Great Basin gilia (*Gilia leptomeria*)	Priority 3	Priority 2	Inventory efforts have failed to find additional populations AND the habitats for each have definite threats.
American pillwort (*Pilularia Americana*)	Priority 3	Priority 2	
Menzies' burnet (*Sanguisorba menziesii*)	Priority 3	Priority 2	
Northwestern yellowflax (*Sclerolinon digynum*)	Priority 3	Priority 2	
Loose-flowered bluegrass (*Poa laxiflora*)	Priority 2	Priority 3	More common than previously thought.
Pacific lanceleaved springbeauty (*Claytonia lanceolata var. pacifica*)	Priority 2	No Priority	Taxonomic questions have been raised.
Ozette coral-root (*Corallorhiza maculata var. ozettensis*)	Priority 2	No Priority	
Shining flatsedge (*Cyperus bipartitus*)	Priority 3	No Priority	More common and less threatened than previously thought.